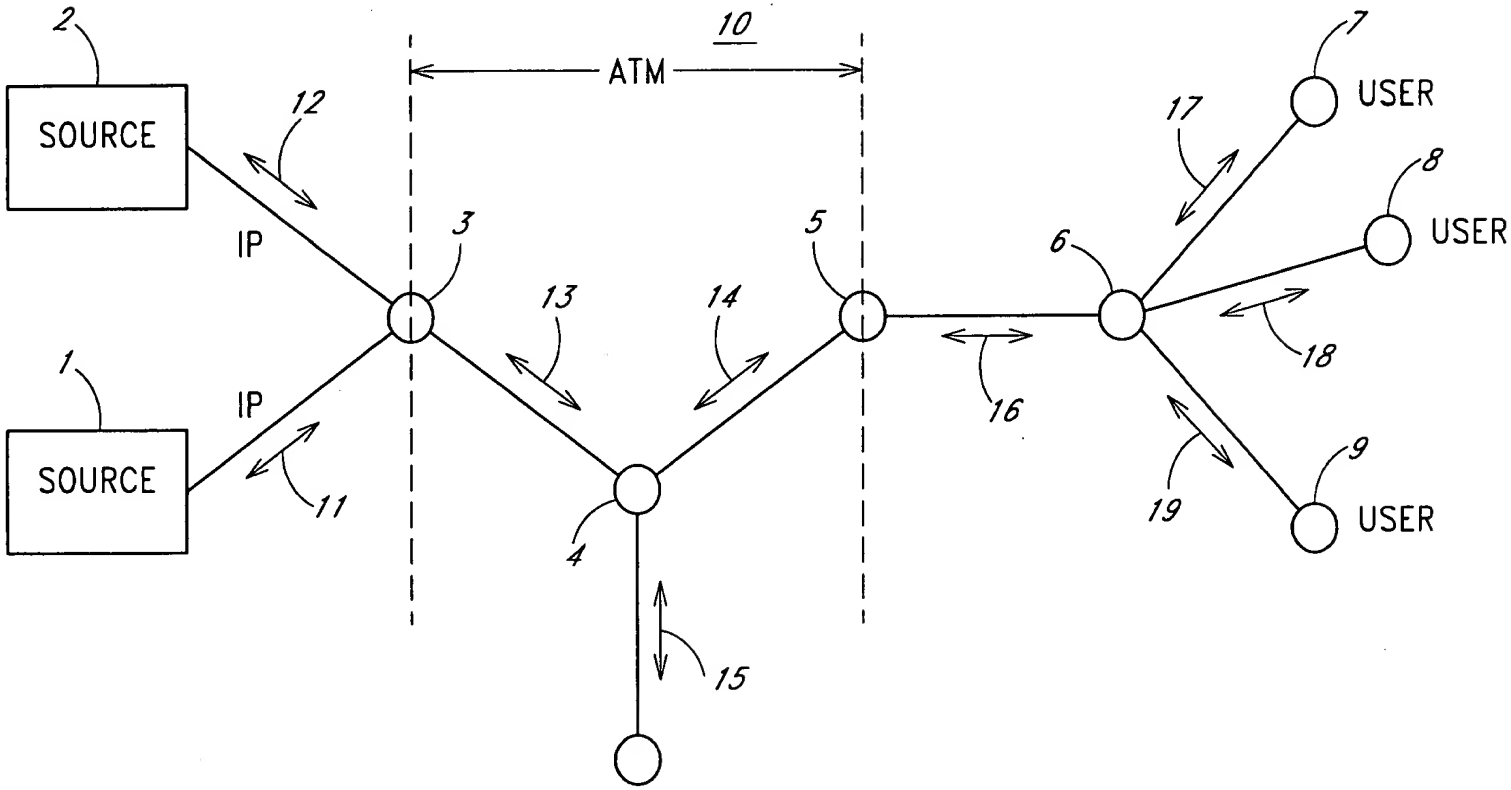


FIG. 1

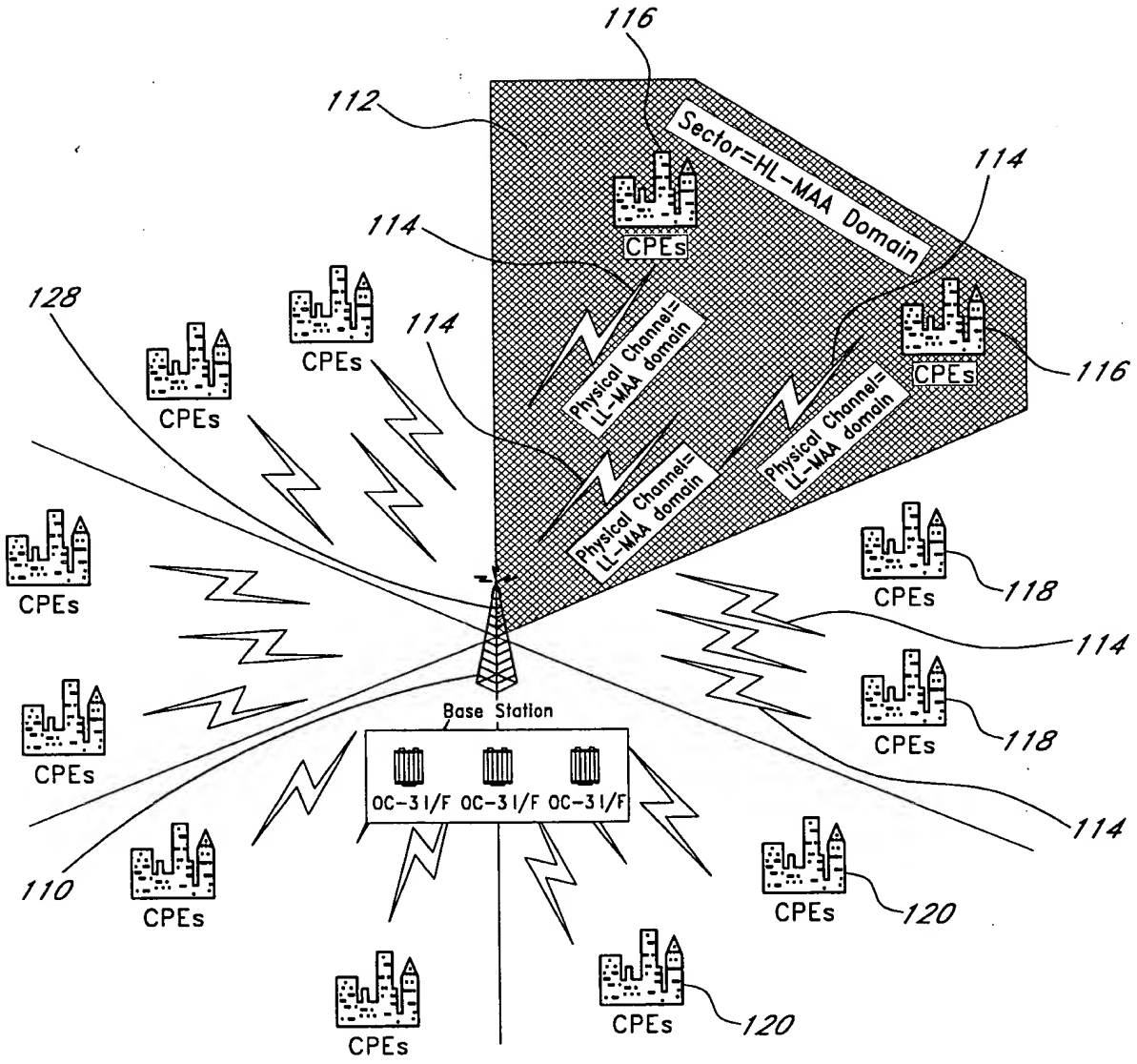

116
112
Sector=HL-MAA Domain
114
CPEs
114
128
CPEs
CPEs
114
Physical Channel= LL-MAA domain
Physical Channel= LL-MAA domain
Physical Channel= LL-MAA domain
CPEs
116
CPEs
118
114
CPEs
118
CPEs
114
Base Station
OC-3 I/F OC-3 I/F OC-3 I/F
110
CPEs
CPEs
120
CPEs
CPEs
120

FIG. 2

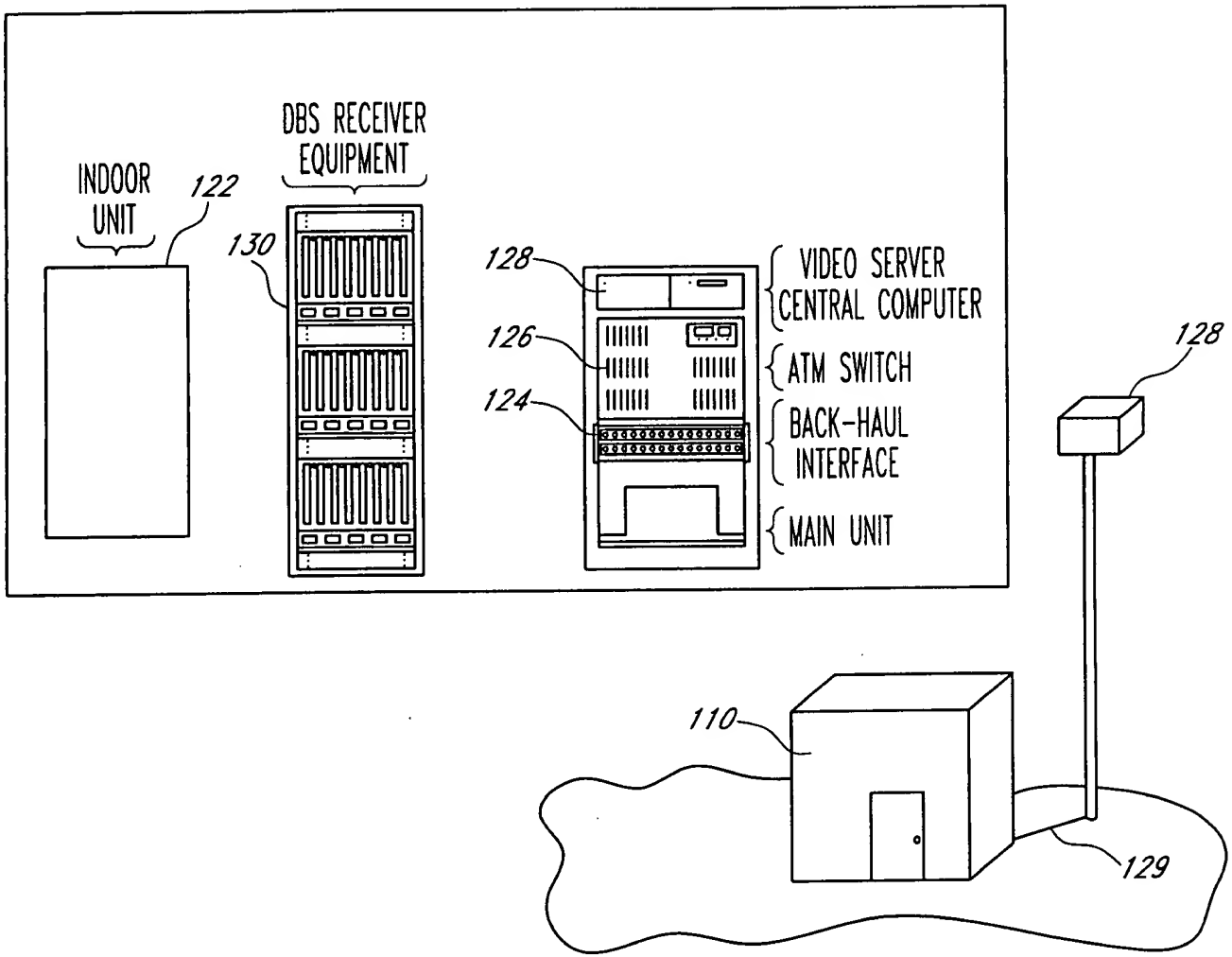

INDOOR UNIT
122
DBS RECEIVER EQUIPMENT
130
128
VIDEO SERVER CENTRAL COMPUTER
126
ATM SWITCH
124
BACK-HAUL INTERFACE
MAIN UNIT
128
110
129

FIG. 3

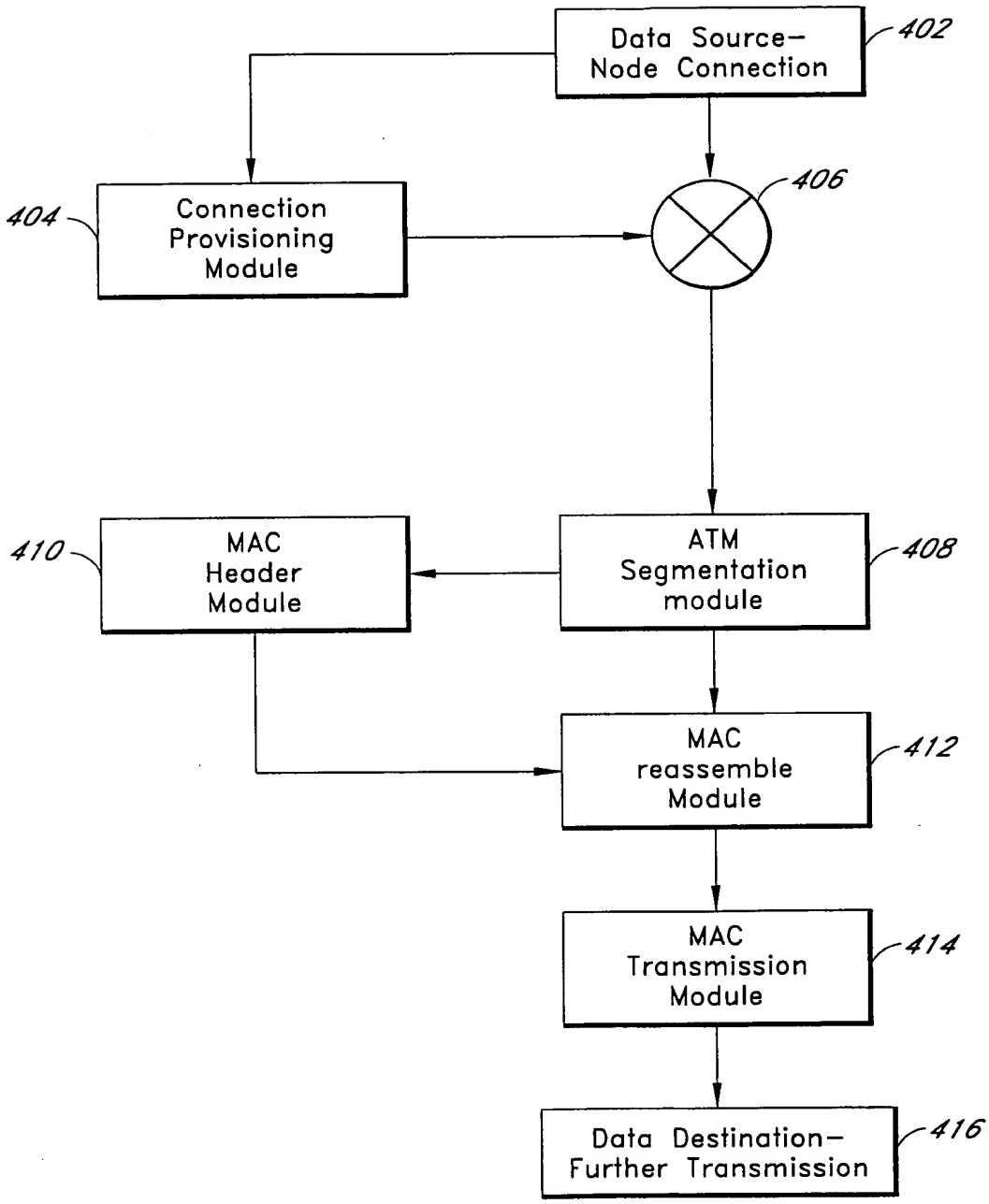
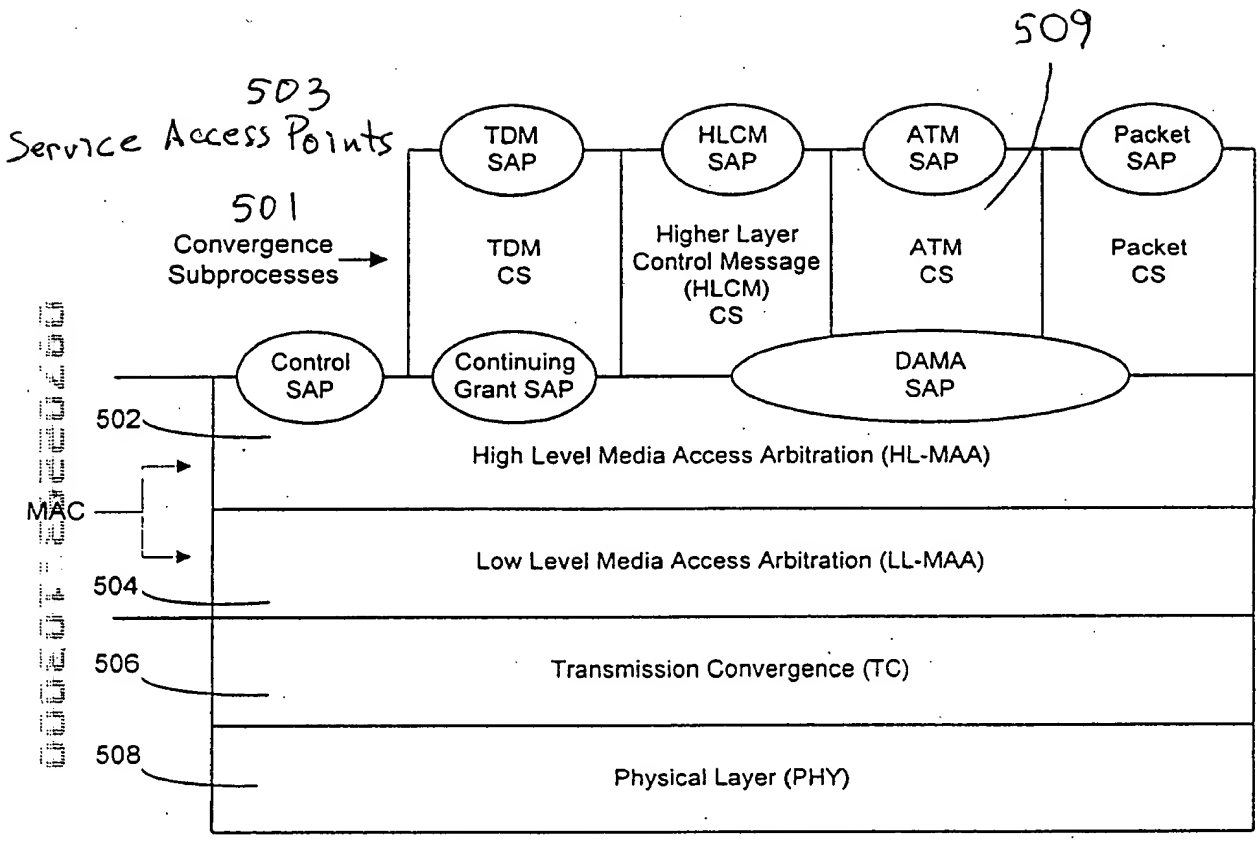

Data Source–
Node Connection
402
Connection
Provisioning
Module
404
406
MAC
Header
Module
410
ATM
Segmentation
module
408
MAC
reassemble
Module
412
MAC
Transmission
Module
414
Data Destination–
Further Transmission
416

FIG. 4



Layered Data Transport Architecture

FIG. 5

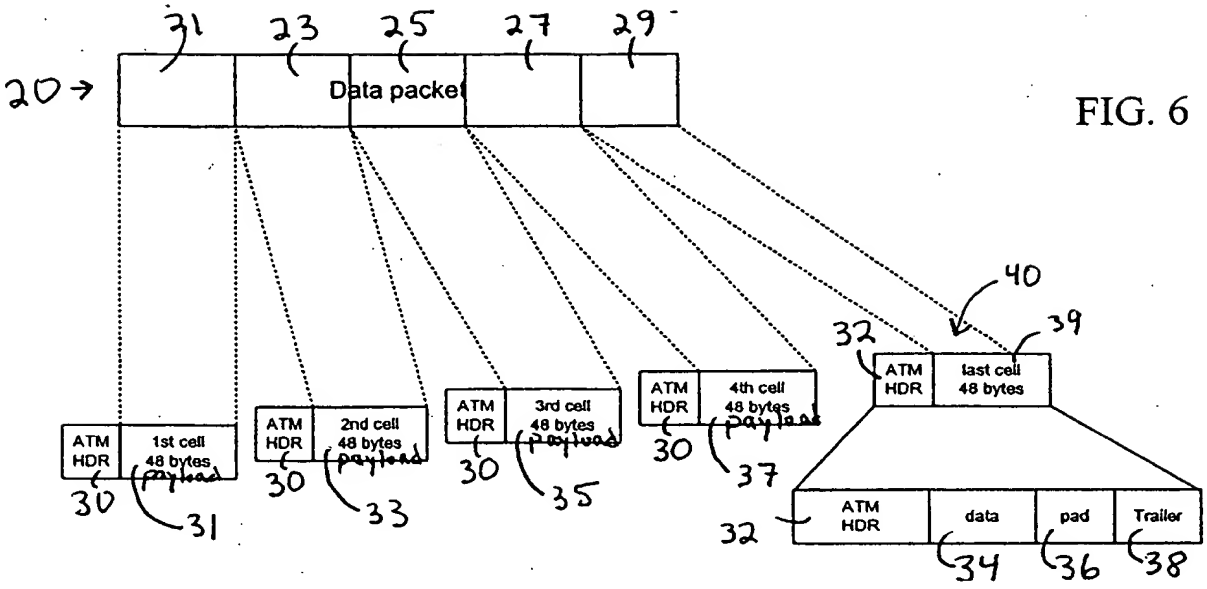

20
Data packet
31
23
25
27
29
40
32
39
ATM HDR
1st cell 48 bytes payload
2nd cell 48 bytes payload
3rd cell 48 bytes payload
4th cell 48 bytes payload
last cell 48 bytes
data
pad
Trailer
30
31
33
35
37
34
36
38

FIG. 6

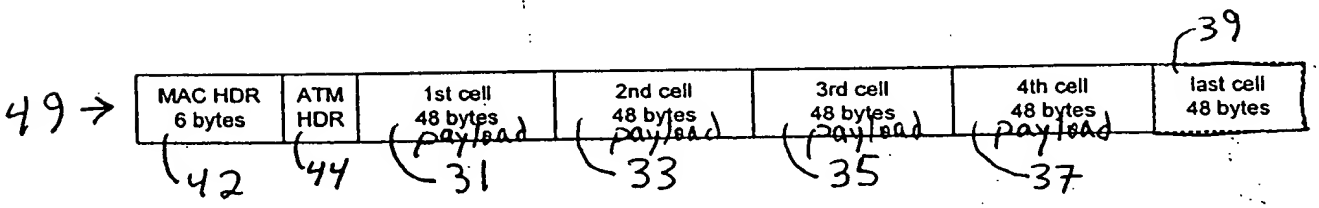

49
MAC HDR 6 bytes
ATM HDR
1st cell 48 bytes payload
2nd cell 48 bytes payload
3rd cell 48 bytes payload
4th cell 48 bytes payload
last cell 48 bytes
39
42
44
31
33
35
37

FIG. 7

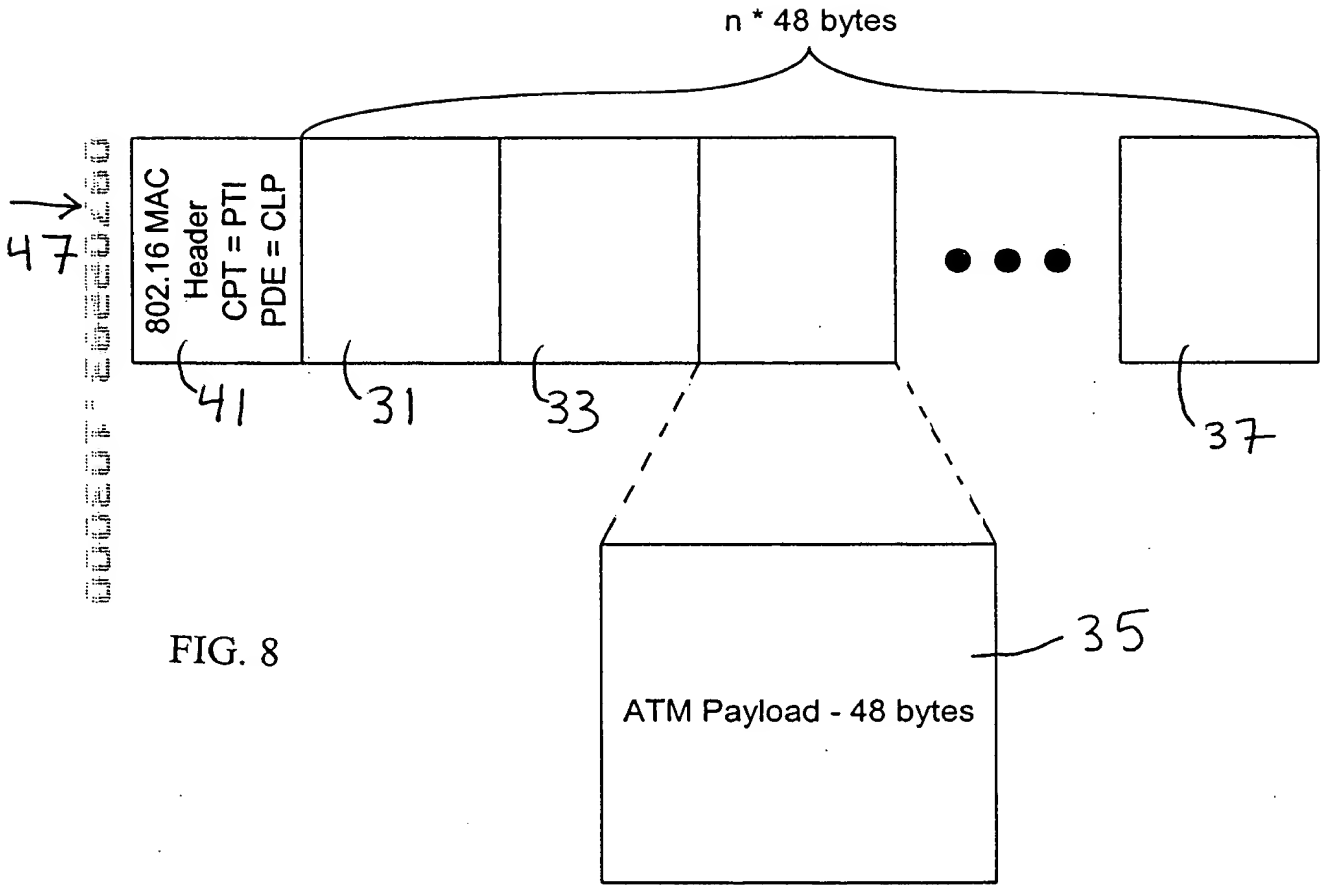
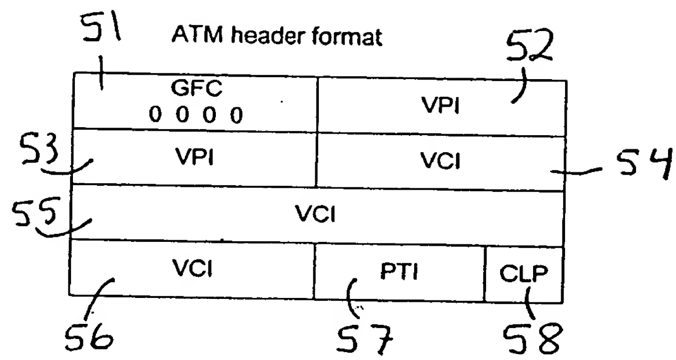
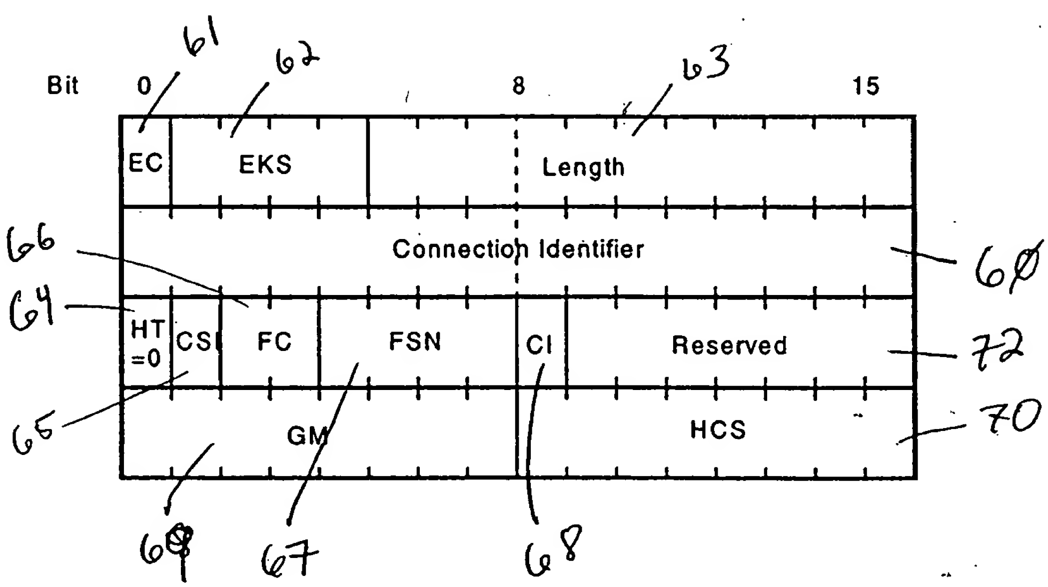

n * 48 bytes
47
802.16 MAC Header
CPT = PTI
PDE = CLP
41
31
33
37
35
ATM Payload - 48 bytes

FIG. 8

FIG. 9



ATM header format
GFC
0 0 0 0
VPI
VPI
VCI
VCI
VCI
PTI
CLP
51
52
53
54
55
56
57
58



Bit
0
8
15
EC
EKS
Length
Connection Identifier
HT
=0
CSI
FC
FSN
CI
Reserved
GM
HCS
61
62
63
66
64
65
60
72
70
67
68

FIG. 10

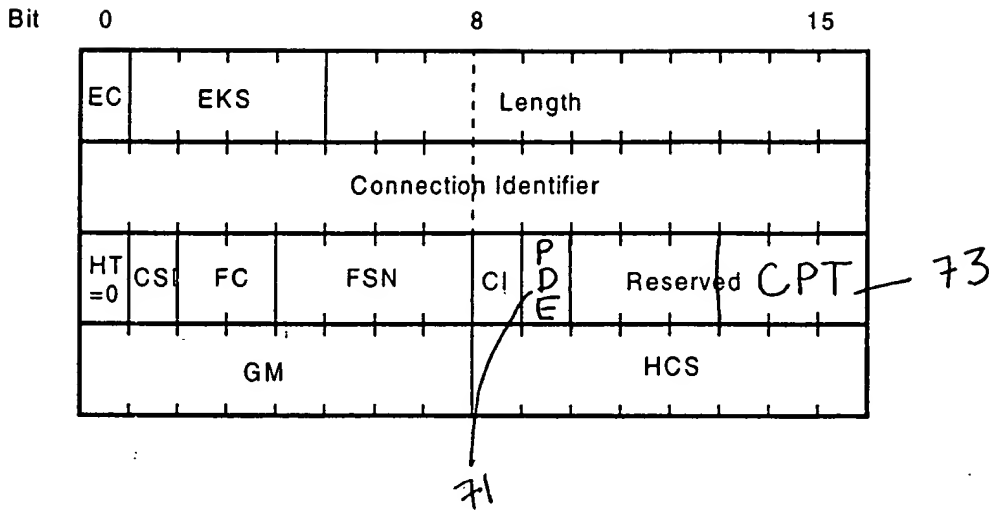

Bit
0
8
15
EC
EKS
Length
Connection Identifier
HT =0
CSI
FC
FSN
CI
PDE
Reserved
CPT
73
GM
HCS
71

FIG. 11

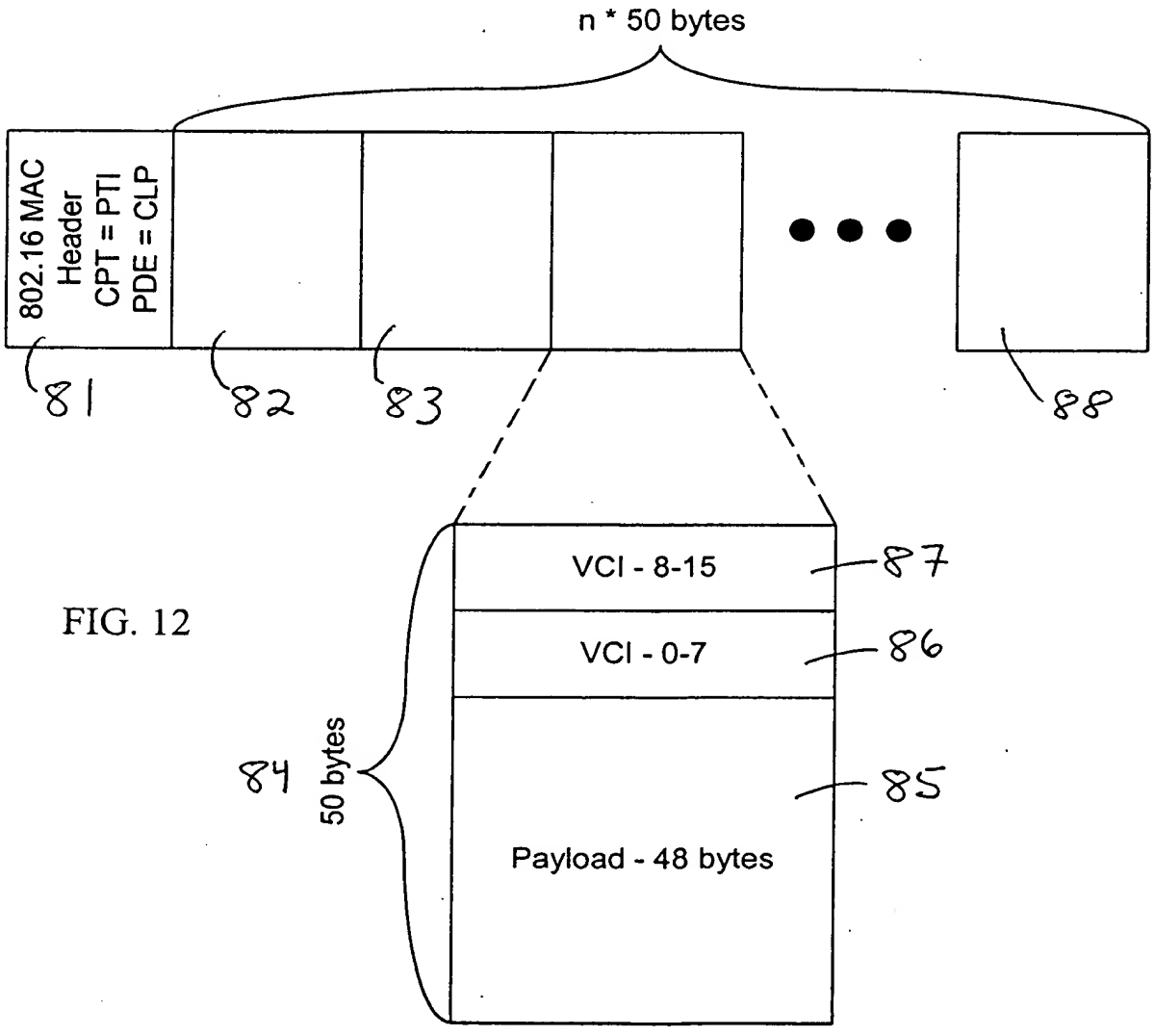

n * 50 bytes
802.16 MAC Header
CPT = PTI
PDE = CLP
81
82
83
88
VCI - 8-15
87
VCI - 0-7
86
84
50 bytes
85
Payload - 48 bytes

FIG. 12

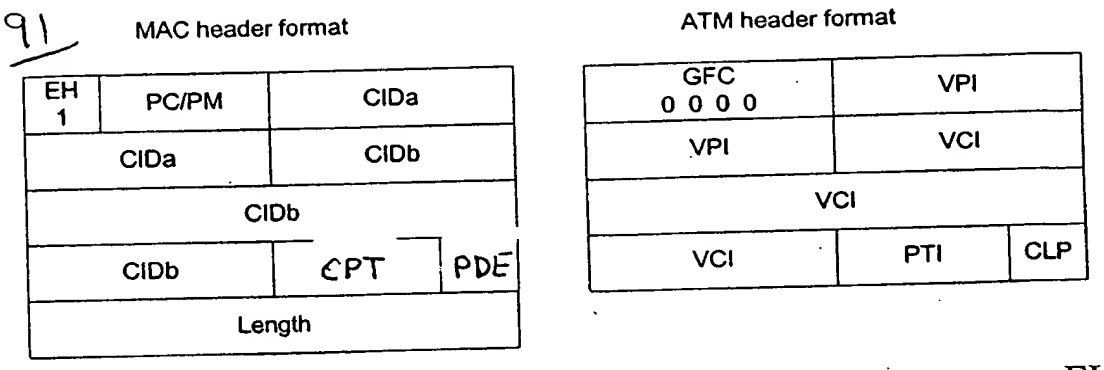


FIG. 13

Mapping:

MAC header	ATM header
EH/PC/PM	GFC (set to zero at the northbound interface between the ATM and MAC)
CIDa	VPI
CIDb	VCI
CPT	PTI
PDE	CLP
Length	N/A no need to map.

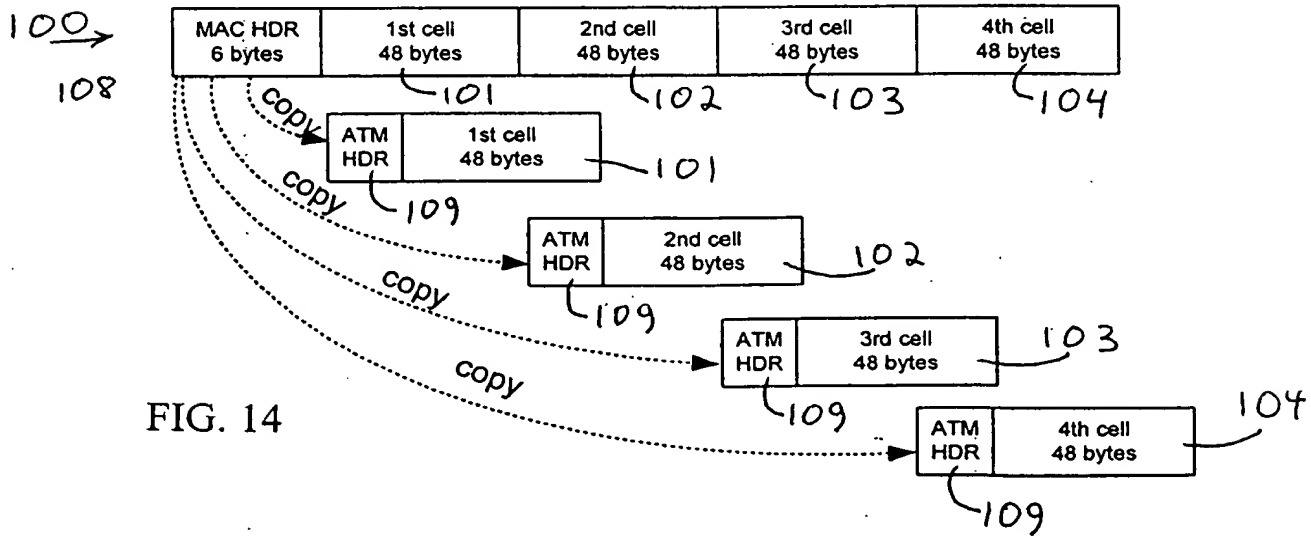


FIG. 14

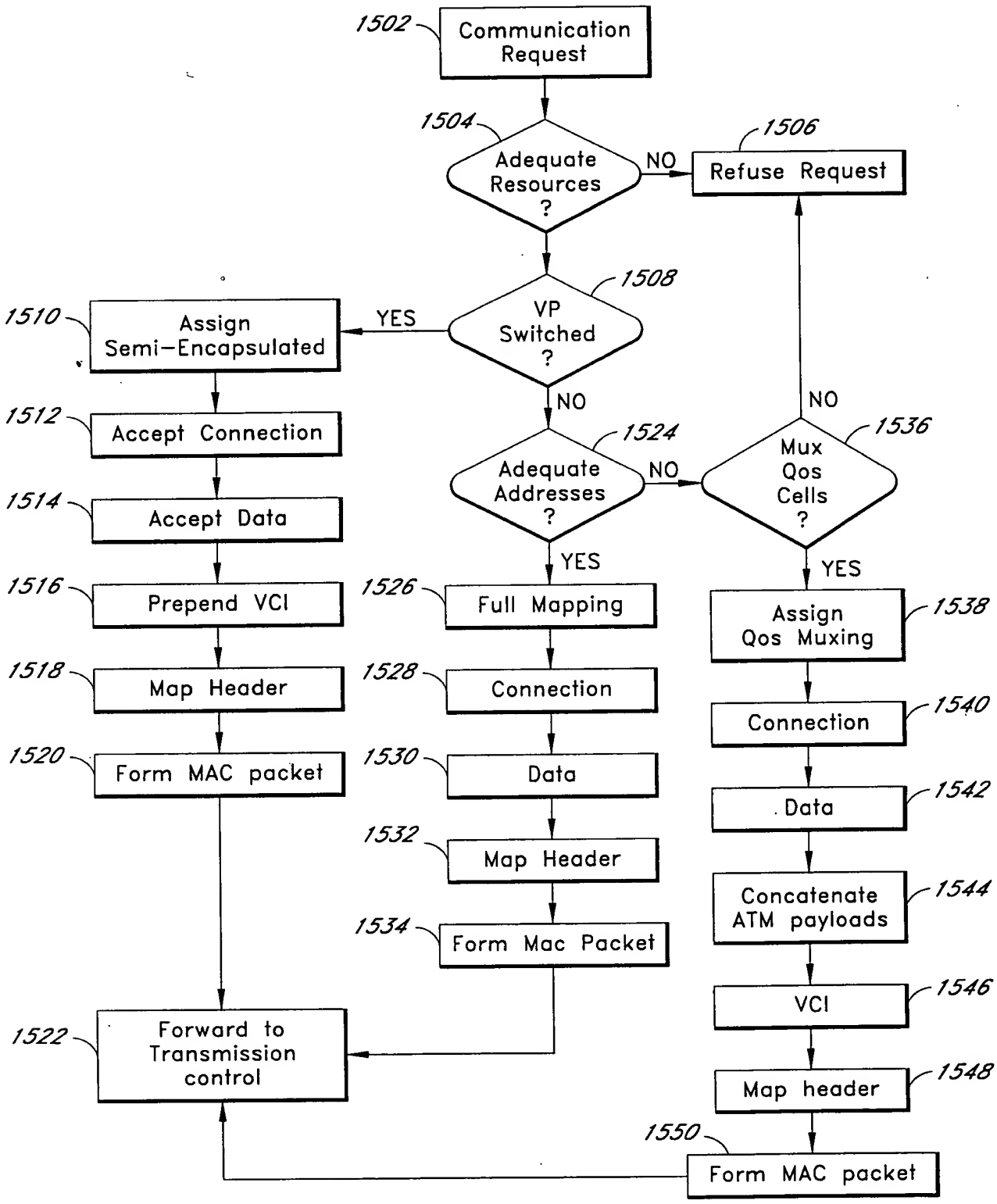

1502
Communication Request
1504
Adequate Resources ?
NO
1506
Refuse Request
1508
VP Switched ?
YES
1510
Assign Semi-Encapsulated
NO
1512
Accept Connection
1514
Accept Data
1516
Prepend VCI
1518
Map Header
1520
Form MAC packet
1524
Adequate Addresses ?
NO
1536
Mux Qos Cells ?
YES
1526
Full Mapping
1528
Connection
1530
Data
1532
Map Header
1534
Form Mac Packet
YES
1538
Assign Qos Muxing
1540
Connection
1542
Data
1544
Concatenate ATM payloads
1546
VCI
1548
Map header
1550
Form MAC packet
1522
Forward to Transmission control

FIG. 15